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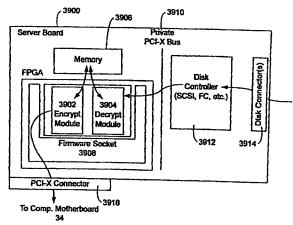
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[Continued on next page]

(54) Title: INTELLIGENT DATA STORAGE AND PROCESSING USING FPGA DEVICES



(57) Abstract: A data storage and retrieval device and method is disclosed. The device includes at least one magnetic storage medium configured to store target data and at least one re-configurable logic device comprising an FPGA coupled to the at least one magnetic storage medium and configured to read a continuous stream of target data therefrom, having been configured with a template or as otherwise desired to fit the type of search and data being searched. The re-configurable logic device is configured to receive at least one search inquiry in the form of a data key and to determine a match between the data key and the target data as it is being read from the at least one magnetic storage medium. This device and method can perform a variety of searches on the target data including without limitation exact and approximate match searches, sequence match searches, image match searches and data reduction searches. This device and method may be provided as part of a stand-alone computer system, embodied in a network attached storage device, or can otherwise be provided as part of a computer LAN or WAN. In addition to performing search and data reduction operations, this device may also be used to perform a variety of other processing operations including encryption, decryption, compression, decompression, and combinations thereof.





European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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C. DOCUM	ENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the re	levant passages	Relevant to claim No.
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Х	EP 0 887 723 A (INTERNATIONAL BU	SINESS	1-23
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	figure 1		
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	column 7, line 48 - line 64 column 9, line 39 - line 50		
	figures 2,3b		
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X Furth	er documents are listed in the continuation of box C.	X Patent family members are listed in	annex.
° Special cal	egories of cited documents:	"T" later document published after the inter	national filing date
"A" docume	nt defining the general state of the art which is not ered to be of particular relevance	or priority date and not in conflict with the cited to understand the principle or the	ne application but
"E" earlier d	ocument but published on or after the international	invention "X" document of particular relevance; the cla	imed invention
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	Fax: (+31-70) 340-3016	Jegura, a	

international Application No

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Х	EP 0 880 088 A (MITSUBISHI CORPORATION) 25 November 1998 (1998-11-25) column 14, line 2 - line 58 column 15, line 19 - line 31 column 8, line 41 - column 10, line 7 figures 2,3,5	1-23
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OCTION AND	continuation of second sheet) (January 2004)	

ternational application No. PCT/US2004/016021

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)
This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
1. Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).
Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)
This International Searching Authority found multiple inventions in this international application, as follows:
see additional sheet
As all required additional search fees were timely paid by the applicant, this international Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1-23
Remark on Protest The additional search fees were accompanied by the applicant's protest. No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-23

securing the decryption step

2. claims: 24-44

search acceleration

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Information on patent family members

International Application No
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